residual malignant cells that may remain viable in said patient following said debulking procedure, said method comprising the following steps in the order listed:

(a) monitoring said patient for levels of hematopoietic cells;

(b) administering to said patient HLA-compatible, allogeneic peripheral blood lymphocytes in a regimen that causes a clinically mild graft-versus-host response, wherein said administering is after patient is partially hematopoiesis recovered but is not fully immune reconstituted; and

(c) monitoring said patient for levels of malignant cells deriving from said population.

21. (New) The method of claim 20, wherein said regimen is selected so as to cause a clinically significant graft-versus-malignant cell response.

22. (New) The method of claim 20, wherein said regimen comprises the following steps in sequence:

(i) treating said patient by administration of about 10^7 cells/kg to about 10^9 cells/kg of HLA-compatible, allogeneic peripheral blood lymphocytes;

(ii) monitoring said patient for indications of a graft-versus-malignant cell response or for indications of a graft-versus-host response; and

(iii) if no or insufficient graft-versus-malignant cell response or graft-versus-host response develops in said patient, escalating said treatment by performing at least one procedure selected from the group consisting of:

(1) administration of a number of HLA-compatible, allogeneic peripheral blood lymphocytes greater than the number of lymphocytes administered in step (i);

(2) administration of a number of HLA-compatible, allogeneic peripheral blood lymphocytes at least as great as the number of lymphocytes administered in step (i), accompanied by administration of at least one T-cell-activating cytokine to said patient;

(3) administration of HLA-compatible, allogeneic cytokine-activated lymphocytes (CAL) to said patient; and

(4) administration of HLA-compatible, allogeneic CAL, accompanied by administration in vivo of at least one T-cell activating cytokine to said patient;

wherein more than one of said procedures is performed if no or insufficient graft-versus-malignant response or graft-versus-host response develops in said patient following said first or subsequent procedure.

23. (New) The method of claim 22, wherein step (i) further comprises administration in vivo of at least one T-cell-activating cytokine to said patient.

24. (New) The method of claim 20, wherein said regimen comprises the following steps in sequence:

(i) administering to said patient about 10^7 cells/kg to about 10^9 cells/kg of HLA-compatible, allogeneic peripheral blood lymphocytes and at least one T-cell-activating cytokine to said patient;

(ii) monitoring said patient for indications of a graft-versus-malignant cell response or for indications of a graft-versus-host response; and

(iii) if no or insufficient graft-versus-malignant cell or graft-versus-host response develops in said patient, administering about 10^7 cells/kg to about 10^9 cells/kg of HLA-compatible, allogeneic cytokine-activated lymphocytes (CAL) and at least one T-cell-activating cytokine to said patient.

25. (New) The method of claim 20, wherein said regimen comprises the following steps in sequence:

(i) administering to said patient about 10^5 cells/kg to about 10^9 cells/kg of HLA-compatible, allogeneic peripheral blood lymphocytes, said HLA-compatible, allogeneic peripheral blood lymphocytes comprising cytokine-activated lymphocytes (CAL), and at least one T-cell-activating cytokine to said patient;

(ii) monitoring said patient for indications of a graft-versus-malignant cell response or for indications of a mild graft-versus-host response; and

(iii) if no or insufficient graft-versus-malignant cell or graft-versus-host response develops in said patient, administering about 10^5 cells/kg to about 10^9 cells/kg of HLA-compatible, allogeneic CAL and at least one T-cell-activating cytokine to said patient.

26. (New) The method of claim 22, wherein said cytokine is selected from the group consisting of IL2, IL4, IL5, IL6, IL7, IFN-alpha, IFN-gamma and TNF-alpha.

27. (New) The method of claim 20, wherein said stem cells are obtained from bone marrow.

28. (New) The method of claim 20, wherein said stem cells are obtained from the peripheral circulation.

29. (New) The method of claim 20, wherein said stem cells are obtained from fetal sources selected from the group consisting of fetal tissue, fetal circulation and umbilical cord blood.

30. (New) The method of claim 20, wherein said malignant cells are leukemia cells.

31. (New) The method of claim 20, where in said malignant cells are lymphoma cells.

32. (New) The method of claim 20, wherein said HLA-compatible cells are fully HLA-matched with said patient.

33. (New) The method of claim 20, wherein said HLA-compatible cells are at least haploidentical with said patient.

34. (New) The method of claim 20, wherein said HLA-compatible cells are single HLA locus-mismatched cells from a sibling of said patient.

35. (New) The method of claim 20, wherein said regimen comprises the following steps in sequence:

(i) administering to said patient about 10^5 cells/kg to about 10^9 cells/kg of HLA-compatible, allogeneic peripheral blood lymphocytes, said HLA-compatible, allogeneic peripheral blood lymphocytes comprising cytokine-activated lymphocytes (CAL);

(ii) monitoring said patient for indications of a graft-versus-malignant cell response or for indications of graft-versus-host response; and

(iii) if no or insufficient graft-versus-malignant cell or graft-versus-host response develops in said patient, administering about 10^5 cells/kg to about 10^9 cells/kg of HLA-compatible, allogeneic CAL and at least one lymphocyte-activating cytokine to said patient.

36. (New) The method of claim 23, wherein said cytokine is selected from the group consisting of IL2, IL4, IL5, IL6, IL7, IFN-alpha, IFN-gamma and TNF-alpha.

37. (New) The method of claim 24, wherein said cytokine is selected from the group consisting of IL2, IL4, IL5, IL6, IL7, IFN-alpha, IFN-gamma and TNF-alpha.

38. (New) The method of claim 25, wherein said cytokine is selected from the group consisting of IL2, IL4, IL5, IL6, IL7, IFN-alpha, IFN-gamma and TNF-alpha.

Respectfully submitted,

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